In the claims:

For the Examiner's convenience, all pending claims are presented below with changes shown.

1. (Currently Amended) A device, comprising:

a scheduler in an access point to provide a schedule of packets to transmit on each of M spatial channels to M stations during a time interval by arranging variable length packets to fill each of the M spatial channels ~~during the time interval~~ based on ~~the transmission times for different~~ packet lengths of ~~each of~~ the variable length packets having aggregate transmission times that fit within the time interval,

where M is a constant less than or equal to a number of antennas at the access point.

2. (Original) The device of claim 1 further including adaptive antenna arrays used in conjunction with a beam forming algorithm to achieve spatial diversity and implement Spatial-Division Multiple-Access (SDMA), wherein the adaptive antenna array changes beam weights based on the schedule.

3. (Original) The device of claim 1 wherein the scheduler in the downlink provides the schedule of transmission intervals for different mobile stations.

4. (Original) The device of claim 1 wherein the schedule accounts for traffic information to the mobile stations based on packet size.

5. (Original) The device of claim 1 wherein the schedule accounts for traffic information to the mobile stations based on queue size.

6. (Original) The device of claim 1 wherein the schedule accounts for traffic information to the mobile stations based on priority.

7. (Original) The device of claim 1 wherein the access point sends multiple schedules in a protected time interval to the mobile stations.

8. (Original) The device of claim 7 wherein a first schedule of the multiple schedules is sent to a first mobile station and a second schedule is sent to a second mobile station.

9. (Original) The device of claim 1 wherein the access point fills spatial channels using the data packets buffered for all the mobile stations.

10-25. (Canceled)

26. (Currently Amended) A method for a Medium Access Control (MAC) protocol, comprising:

providing a schedule of packets to transmit on each of M spatial channels to M stations during a time interval by arranging variable length packets to fill each of the M spatial channels ~~during the time interval~~ based on ~~the transmission times for different~~ packet lengths of ~~each of~~ the variable length packets having aggregate transmission times that fit within the time interval,

where M is a constant less than or equal to a number of antennas at the access point

27. (Original) The method of claim 26, further including: retrieving antenna resources in the access point to form spatial channels developed on the fly for a waiting mobile station.

28-29. (Canceled)